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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,315	04/19/2004	Jun Hirabayashi	00862.023537.	9825
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EXAMINER				
SARPONG, AKWASI				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,315

Applicant(s)

HIRABAYASHI ET AL.

Examiner

AKWASI M. SARPONG

Art Unit

2625

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
- Paper No(s)/Mail Date 03/31/2008
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/2008 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seto (5875044) in view of Loce (5696845).

Claim 1, Seto discloses an exposure deciding method for deciding laser exposure when image formation is performed by an electro photographic process (**Col. 9 Lines 35-39, Fig. 1- thus images are printed by exposing the bitmap**), comprising:

an expansion step (**Fig. 1, El. 204—thus the data decompressing processing unit 204 expansion**) of expanding image data at a resolution higher than a resolution

(Col. 9 Lines 40-45 and Col. 11 Lines 40-58, thus the data is expanded when the dot configuration is being extended) performance capability of an output apparatus.

a resolution conversion **(Fig. 1, El. 206 or resolution converting processing)** step of subjecting high-resolution data, which is the result of expansion at said expansion step, to a resolution conversion to the actual resolution of the output **(Col. 12 Lines 9-19, Fig. 1 printer 202)** apparatus, by a prescribed low-resolution conversion method **(Col. 12 Lines 9-19, Fig. 7 thus as color is being converted the image data is heated or expanded)**

and

an image formation step of forming an image represented by image data, **(Col. 6, lines 45-56- thus image data D5 is delivered to engine 207)** which has undergone the resolution conversion performed at said resolution conversion step, **(Fig. 1, El. 206, resolution converting processing unit)**

Seto does not disclose an exposure decision step of deciding laser exposure when image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation and the output image resolution is the same as the input image resolution.

Loce discloses an image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation and the output image resolution is the same as the input image resolution. **(Col. 12 Lines 40-45- thus prescribed image data enhanced with out changing the resolution of the image**

and therefore if the was 600dpi it is going to printed or outputted as 600dpi).

Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Seto's electro photographic process to further include the enhanced filter 14 as showed in Fig 1 which is going to serve as an enhancement filter which will keep the actual resolution of the image after it has been compressed and decompressed so that an enhanced printed output will be produced by the printer as disclosed by Loce in Col. 5 Lines 30-39.

Note: after Seto's apparatus has been modified to include Loce's enhanced filter the final image D5 which is going to be printed as taught by Seto will maintain the actual resolution that was began with. Thus the prescribed image can be enhanced and printed without changing the resolution of the image.

Claim 2, Seto (Col. 16 Lines 7-20, Fig. 7 El. 17, thus the interpolator averages all the pixels of the image data) in view of Loce (Col. 12 Lines 35-55) discloses a method wherein said resolution conversion step includes averaging the high-resolution data using a matrix of a predetermined size and subjecting the actual resolution of the output apparatus to a resolution conversion. (Sato: Col. 11 Lines 25-35, thus the LUP table use a matrix which has matrix stored in it as part of the conversion process).

Claim 3, Seto in view of Loce (Col. 12 Lines 35-46, Fig. 11 El. 472) discloses a method wherein said resolution conversion step includes averaging the high-resolution data using a matrix in which boxes of a matrix of a predetermined size have been

shifted by one-half pixel. **(Sato: Col. 12 Lines 32-40 and Col. 14 Lines 40-52, thus the average is ascertained through the interpolation process which takes into account the high-resolution data).**

Claim 4, Seto in view of Loce discloses a method wherein a prescribed pattern is formed that will take on a different image formation state by the prescribed low-resolution conversion method despite the fact that an original image pattern is the same the density of the prescribed pattern is measured, (**Loce: Col. 10, lines 62-67, Fig. 10, El. 264 and 266) and (Loce: Col. 11 Lines 1-4) (Sato: Col. 2 lines 1-7, thus the density pattern method includes using the predetermined pattern of the image).** and the laser exposure is determined in such a manner that the density of the prescribed pattern will be the same before and after image formation **(Loce: Col. 12 Lines 40-45, thus the input template are chosen as the occurrence occurs).**

Claim 5, Seto in view of Loce **(Loce: Col. 12 Lines 40-65, Fig. 11)** discloses a method wherein a prescribed pattern is formed that is repeated at fixed intervals, the density of the prescribed pattern is measured and the laser exposure based upon the measured density in such a manner that a difference in average density will not develop between the prescribed patterns. **(Sato: Col. 2 lines 1-7, thus the density pattern method includes using the predetermined pattern of the image)**

Claim 6, Seto discloses an image forming apparatus for deciding laser exposure when image formation is performed by an electro photo graphic process (**Col. 9 Lines 35-39, Fig. 1, thus the image is formed or printed by laser printer, i.e. using toner as a means of printing**), comprising:

an expansion unit (**Fig. 1, El. 204—thus the data decompressing processing unit 204 expansion**) of expanding image data at a resolution higher than a resolution (**Col. 9 Lines 40-45 and Col. 11 Lines 40-58, thus the data is expanded when the dot configuration is being extended**) performance capability of an output apparatus.

a resolution conversion unit (**Fig. 1, El. 206 or resolution converting processing**) step of subjecting high-resolution data, which is the result of expansion at said expansion step, to a resolution conversion to the actual resolution of the output (**Col. 12 Lines 9-19, Fig. 1 printer 202**) apparatus, by a prescribed low-resolution conversion method (**Col. 12 Lines 9-19, Fig. 7 thus as color is being converted the image data is heated or expanded**)

and

an image formation step of forming an image represented by image data, (**Col. 6, lines 45-56- thus image data D5 is delivered to engine 207**) which has undergone the resolution conversion performed at said resolution conversion step, (**Fig. 1, El. 206, resolution converting processing unit**)

Seto does not disclose an exposure decision step of deciding laser exposure when image formation is performed in such a manner that density of prescribed image

data will be the same before and after image formation and the output image resolution is the same as the input image resolution.

Loce discloses an image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation and the output image resolution is the same as the input image resolution. **(Col. 12 Lines 40-45- thus prescribed image data enhanced with out changing the resolution of the image and therefore if the was 600dpi it is going to printed or outputted as 600dpi).**

Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Seto's electro photographic process to further include the enhanced filter 14 as showed in Fig 1 which is going to serve as an enhancement filter which will keep the actual resolution of the image after it has been compressed and decompressed so that an enhanced printed output will be produced by the printer as disclosed by Loce in Col. 5 Lines 30-39.

Note: After Seto's apparatus has been modified to include Loce's enhanced filter the final image D5 which is going to be printed as taught by Seto will maintain the actual resolution that was began with. Thus the prescribed image can be enhanced and printed without changing the resolution of the image.

Claim 7- Cancelled

Claim 8, -Cancelled

Claim 9, Sato in view of Loce discloses wherein said resolution conversion unit averages the high-resolution data using a matrix of a predetermined size and subjects the actual resolution of the output apparatus to a resolution conversion. **(Sato: Col. 11 Lines 25-35, thus the LUP table use a matrix which has matrix stored in it as part of the conversion process).**

Claim 10, Sato in view of Loce **(Col. 12 Line 40-47, -thus the resolution of the image does not change and therefore the resolution of the image that was used to start is ended with the same)** discloses wherein said resolution conversion unit averages the high-resolution data using a matrix in which boxes of a matrix of a predetermined size have been shifted by one-half pixel. **(Sato: Col. 12 Lines 32-40 and Col. 14 Lines 40-52, thus the average is ascertained through the interpolation process which takes into account the high-resolution data).**

Claim 11, Sato in view of Loce discloses wherein a prescribed pattern is formed that will take on a different image formation state by the prescribed low- resolution conversion method despite the fact that an original image pattern is the same, the density of the prescribed pattern formed is measured, **(Sato: Col. 2 lines 1-7, thus the density pattern method includes using the predetermined pattern of the image)** and the laser exposure is determined in such a manner that the density of the prescribed pattern will be the same before and after image formation. **(Loce: Col. 12 Lines 40-45, thus the input template are chosen as the occurrence occurs)**

Claim 12, Sato in view of Loce discloses an apparatus wherein a prescribed pattern is formed that is repeated at fixed intervals, the density of the prescribed pattern is measured, **(Sato: Col. 2 lines 1-7, thus the density pattern method includes using the predetermined pattern of the image)** and the laser exposure is determined based on the measured density in such a manner that a difference in average density will not develop between the prescribed patterns. **(Sato: Col. 11 lines 40-58) and (Loce: Col. 7 Lines 1-8, thus the resolution of the image does not change from what it was before and therefore averaging the density does not make any difference)**

Response to Applicant's Remarks:

1. Applicant's arguments filed 10/10/2008 have been fully considered but they are not persuasive.

Regarding the claimed invention the applicant argues that the claimed invention is different from the cited reference because the applicant asserts that Sato in view of Loce does not disclose anti-aliasing processing.

In reply: Examiner respectfully disagrees because Sato discloses

Anti- aliasing- (thus a process that the edges of the bitmap are smoothed out so that the edges of the pixels blend in as one image)

Sato clearly discloses in both Col 27 lines 6-20 how the image shown in Fig. 35A and 35B are anti-aliased-thus to make the edges of the image smooth to avoid blurred

image. Also Fig. 28 El. 1253 and Col. 23 lines 27-62 shows and disclose clearly a smoothing processing unit for smoothing the edges of the bitmaps of the image like the one shown in Fig. 35A. Therefore Sato teaches anti-aliasing processing of an image and so the argument of the applicant is not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKWASI M. SARPONG whose telephone number is (571)270-3438. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/King Y. Poon/
Supervisory Patent Examiner, Art Unit 2625

AMS
11/04/2008